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Claims

[c1] A sample processing apparatus comprising:
a vacuum enclosure;
a focused ion beam tool within said vacuum enclosure;
a sputter target within said vacuum enclosure; and
a hinged mount within said vacuum enclosure,
wherein said hinged mount comprises:
a sample mounting portion adapted to hold a sample being processed in said vacuum enclosure;
a counterweight portion connected to said sample mounting portion and being positioned at an approximate right angle to said sample mounting portion; and
an axis around which said mount rotates, wherein said axis passes through said sample mounting portion and said counterweight portion at a location where said sample mounting portion and said counterweight portion connect to one another,
wherein, when said hinged mount is in a first position, said sample mounting surface lies perpendicular to the ion beam, and
wherein, when said hinged mount is in a second position, said sample mounting surface is parallel to the ion beam and in sufficient proximity to said sputter target to

permit material deposition on a sample positioned on said sample mounting portion.

[c2] The apparatus in claim 1, wherein one end of said sample mounting portion is connected to one end of said counterweight portion, such that said sample mounting portion and said counterweight portion form an approximate right angle.

[c3] The apparatus in claim 1, further comprising a movable stage upon which said hinged mount is connected.

[c4] The apparatus in claim 3, wherein said movable stage allows said sample to be beneath said focused ion beam when said hinged mount is in said first position and also allows said sample to be in close proximity to said sputter target when said hinged mount is in said second position.

[c5] The apparatus in claim 3, wherein said hinged mount and said movable stage allow said sample to be placed directly next to said sputter target.

[c6] The apparatus in claim 1, wherein said counterweight portion maintains said hinged mount in said second position after said hinged mount is rotated to said second position.

[c7] The apparatus in claim 1, wherein said sample can be prepared with said focused ion beam and sputtered from said sputter target within said vacuum enclosure, without breaking vacuum.

[c8] A hinged mount for holding a sample within a vacuum enclosure, wherein said hinged mount comprises:
a sample mounting portion adapted to hold a sample being processed in said vacuum enclosure;
a counterweight portion connected to said sample mounting portion and being positioned at an approximate right angle to said sample mounting portion; and
an axis around which said mount rotates, wherein said axis passes through said sample mounting portion and said counterweight portion at a location where said sample mounting portion and said counterweight portion connect to one another,
wherein, when said hinged mount is in a first position, said sample mounting portion faces a focused ion beam tool located within said vacuum enclosure, and
wherein, when said hinged mount is in a second position, said sample mounting portion faces a sputter target located within said vacuum enclosure.

[c9] The hinged mount in claim 8, wherein one end of said sample mounting portion is connected to one end of said counterweight portion, such that said sample mounting

portion and said counterweight portion form an approximate right angle.

[c10] The hinged mount in claim 8, wherein said counterweight portion maintains said hinged mount in said second position after said hinged mount is rotated to said second position.

[c11] The hinged mount in claim 8, wherein said counterweight portion balances said sample mounting portion to allow said hinged mount to be more easily rotated between said first position and said second position.

[c12] The hinged mount in claim 8, wherein said sample can be prepared with said focused ion beam and sputtered from said sputter target within said vacuum enclosure, without breaking vacuum.

[c13] An integrated circuit processing apparatus comprising:
a vacuum enclosure;
a focused ion beam tool within said vacuum enclosure;
a sputter target within said vacuum enclosure;
a movable stage within said vacuum enclosure; and
a hinged mount within said vacuum enclosure on said stage,
wherein said hinged mount comprises:
a sample mounting portion adapted to hold a sample

being processed in said vacuum enclosure;
a counterweight portion connected to said sample mounting portion and being positioned at an approximate right angle to said sample mounting portion; and
an axis around which said mount rotates, wherein said axis passes through said sample mounting portion and said counterweight portion at a location where said sample mounting portion and said counterweight portion connect to one another,
wherein, when said hinged mount is in a first position, said sample mounting portion faces said focused ion beam tool,
wherein, when said hinged mount is in a second position, said sample mounting portion faces said sputter target, and
wherein said movable stage allows said sample to be beneath said focused ion beam tool when said hinged mount is in said first position and also allows said sample to be adjacent said sputter target when said hinged mount is in said second position.

[c14] The apparatus in claim 13, wherein one end of said sample mounting portion is connected to one end of said counterweight portion, such that said sample mounting portion and said counterweight portion form an approximate right angle.

[c15] The apparatus in claim 13, wherein said hinged mount and said movable stage allow said sample to be placed directly next to said sputter target.

[c16] The apparatus in claim 13, wherein said counterweight portion maintains said hinged mount in said second position after said hinged mount is rotated to said second position, and said counterweight portion balances said sample mounting portion to allow said hinged mount to be more easily rotated between said first position and said second position.

[c17] The apparatus in claim 13, wherein said sample can be prepared with said focused ion beam and sputtered from said sputter target within said vacuum enclosure, without breaking vacuum.